WHAT IS CLAIMED IS:

1. A semiconductor integrated circuit device comprising:

a modulation circuit for modulating multiplexed signals to be transmitted; and

a variable gain amplifying circuit for amplifying the modulated transmitting signals depending on first control information to indicate an output level,

wherein said variable gain amplifying circuit is capable of changing the operation current depending on second control information indicating the number of multiplexes of the multiplexed signals to be transmitted and is controlled to increase said operation current when the number of multiplexes is large or to decrease said operation current when the number of multiplexes is small.

2. The semiconductor integrated circuit device according to claim 1, further comprising:

a frequency conversion circuit for converting the signal amplified with said variable gain amplifying circuit to a signal of higher frequency; and

a first variable gain amplifying circuit for amplifying the signal converted with the frequency conversion circuit depending on said first control information,

wherein said first variable gain amplifying circuit is capable of switching the operation current depending on said second control information indicating the number of multiplexes and is controlled to increase said operation current when the number of multiplexes is large or to decrease said operation current when the number of multiplexes is small.

3. The semiconductor integrated circuit device according to claim 1, wherein said second control information is the signal formed of a plurality of bits, and the operation current of said variable gain amplifying circuit can be switched with the signal obtained by decoding said second control information.

4. The semiconductor integrated circuit device according to claim 3, wherein said variable gain amplifying circuit includes a pair of input differential transistors and a current transistor connected in series to said transistors, and the operation current of said variable gain amplifying circuit can be switched when the current flowing into the transistor which is connected to said current transistor with the current-Miller connection is changed depending on said second control information.

5. The semiconductor integrated circuit device according to claim 4, wherein said variable gain amplifying circuit comprises a plurality of resistance elements provided in parallel between emitter terminals of said pair of differential transistors and a plurality of switch elements for connecting and disconnecting

said resistance elements, and the gain of said variable gain amplifying circuit may be changed when said switch elements are turned ON or OFF depending on said first control information to connect or disconnect said resistance elements.

6. The semiconductor integrated circuit device according to claim 4, wherein said variable gain amplifying circuit comprises a plurality of pairs of differential transistors provided in parallel to said pair of differential transistors, and the gain of said variable gain amplifying circuit may be varied when said plural pairs of differential transistors are connected or disconnected depending on said first control information.

7. An electronic component for communication comprising:

a gain controllable power amplifying circuit for outputting the amplified transmission signal; and

a bias circuit for giving bias to said power amplifying circuit depending on first control information indicating an output level,

wherein said power amplifying circuit is capable of changing the operation current depending on second control information indicating a number of multiplexes of multiplexed signals to be transmitted and is controlled to increase said operation current when the number of multiplexes is large or to decrease said operation current when the number of multiplexes is small.

8. The electronic component according to claim 7, wherein said power amplifying circuit is formed of a plurality of cascade-connected amplifying stages and is capable of changing the operation current flowing into the final amplifying stage may be switched depending on said second control information.

9. The electronic component according to claim 7, wherein said power amplifying circuit includes an amplifying transistor and transistor connected to said transistor with current-Miller connection, an amplification factor of said amplifying transistor is controlled depending on the magnitude of the bias given from said bias circuit to said current-Miller transistor, a plurality of extra-amplifying transistors are provided in parallel to said amplifying transistor, and said operation current is switched depending on the condition that the current selectively flows or does not flow into these extra-amplifying transistors in accordance with said second control information.

10. The electronic component according to claim 9, wherein the switch means are respectively provided between the control terminals of said extra-amplifying transistors and the control terminals of said amplifying transistors, and said operation current is

switched when these switch means are selectively set to the signal transmitting condition depending on said second control information.

11. The electronic component according to claim 7, wherein said power amplifying circuit includes an amplifying transistor and a transistor connected with said transistor by current-Miller connection, the amplification factor of said amplifying transistor is controlled depending on the magnitude of the bias given from said bias circuit to said current-Miller transistor, and said bias circuit switches the bias current flowing to said current-Miller transistor depending on said second control information.

12. A wireless communication system comprising:

a communication semiconductor integrated circuit device including: a modulation circuit for realizing modulation for multiplexed information pieces to be transmitted; and a variable gain amplifying circuit for amplifying said modulated transmission signal depending on first control information indicating an output level, wherein the variable gain amplifying circuit is capable of changing the operation current depending on the second control information indicating a number of multiplexes of the transmission signal and is controlled to increase said operation current when the number of multiplexes is large or to decrease said operation current when the number of multiplexes is small;

a baseband circuit for generating and giving the I, Q signals to be modulated by said communication semiconductor integrated circuit device; and

a communication electronic component including a gain controllable power amplifying circuit for amplifying the signal outputted from said communication semiconductor integrated circuit device, and a bias circuit for giving bias to said power amplifying circuit depending on said first control information,

said first control information and said second control information being given to said communication semiconductor integrated circuit device from said baseband circuit.

13. The wireless communication system according to claim 12,

wherein said power amplifying circuit is capable of changing the operation current depending on said second control information and is controlled to increase said operation current when the number of multiplexes is large or to decrease said operation current when the number of multiplexes is small, and

wherein said first control information and said second control information are given to said communication semiconductor integrated circuit device and said communication electronic component from said baseband circuit.